Annex K

Shooting whales (photographically) from small boats: An introductory guide

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As photo-identification collections grow and aids such as computerised video matching are increasingly used, great attention must be paid to photographic techniques. For more detail on examination of negatives and prints, see Bigg, Balcomb and Ellis (1986).

Choice of film

For whales that are mainly black, gray and/or white, high speed black and white (B&W) film, such as *Ilford* HP-5, is preferred. Colour slide film generally does not have the detail or latitude to be used on a regular basis for ID work from small boats, although in some cases right whale callosity/cyamid patterns are slightly better defined using a high speed colour film, such as *Kodachrome* 200 Professional. If there is any doubt about which type of film to choose, try shooting B&W and colour side by side or alternately for a few weeks, and then compare ID's and the proportion of good, usable shots.

Once the correct film has been chosen, the components of taking a good ID shot are: framing, focusing, exposure, developing and printing.

Framing and focusing

Before beginning field work with a new species, it is important to examine as many good identification photographs of your species as possible, to train your eye to the detail of the ID image. For example, look at Sears, Wenzel and Williamson (1987) for blue whales, Bigg, Ellis, Ford and Balcomb (1987) for killer whales and Katona, Harcourt, Perkins and Kraus (1980) for humpback whales.

Always shoot some practice rolls on land before going into the field, both to check the camera and to practice fast focusing. If possible, use a fast auto-focus camera, or practice focusing and timing by shooting any fast-moving activities, such as sporting events. Make sure to hold the camera very steady. Under some light conditions, such as haze or fog, you may need to switch from auto-focus to manual focus. Always take a back-up camera system in case the primary system develops any technical problems.

Timing is important when taking an ID shot. Determine the most distinctive ID features of your species, and take photos of those parts when they are most exposed. For example, for killer whales, photograph the saddle patch when it is out of the water (Figs 1a and 1b), not as it first begins to surface (Fig. 1c). With humpback whales, the back will show a pronounced arch or hump as the animal

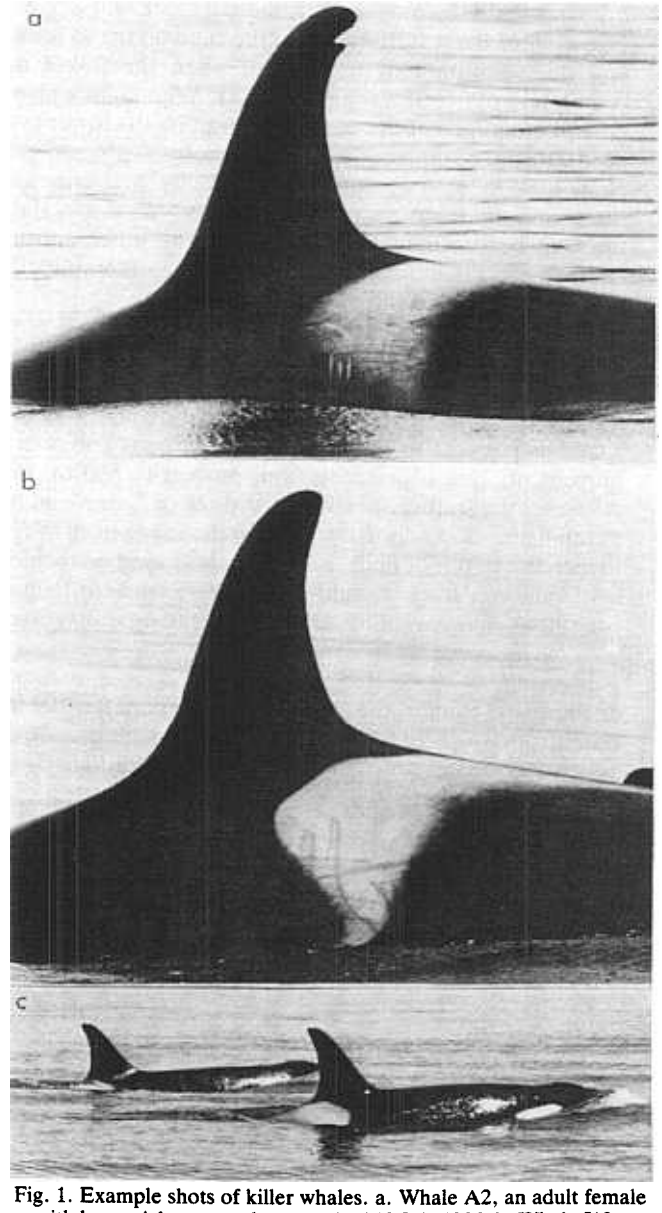

Fig. 1. Example shots of killer whales. a. Whale A2, an adult female with large nick at top, photographed 12 July 1986. b. Whale J12, an adult female with M-shaped scratches on saddle, photographed 21 April 1975. c. Not an ideal shot. Photos a. and b. by G. Ellis, Pacific Biological Station, Nanaimo, B.C., Canada. Photo c. by S. Mizroch.

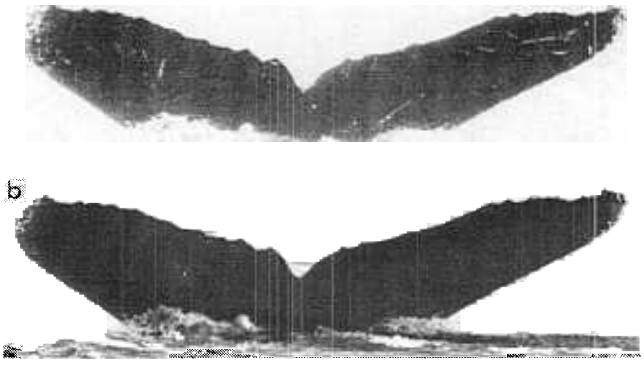

Fig. 2. Example shots of a humpback whale. a. Note the rake marks on the trailing edge, the open circle on the left fluke, and the numerous lines and spots throughout the fluke. b. Printed from the same negative, but printed too dark. Only a few line scars show. Negative loaned by Cascadia Research Collective, Olympia, Washington, USA.

prepares for a deep dive, then the tail stock will begin to come out of the water. Focus on the caudal area as it rises and take photographs of the tail when the flukes are completely out of the water (Fig 2a). With right whales, take photographs of the crenulations along the lower jaw, post-blowhole callosities, white blowholes, belly and chin pigmentation, mandibular callosity islands, pigmentation, scars, and markings on the flukes, body, tail stock, fluke tips and head. Good photographs of any other unusual features are sometimes enough to make an identification within a season and often between years.

Exposures

If your study is to be carried out from a small boat, as is usually the case, it is important to use as fast a shutter speed as possible to minimise effects of boat and animal movement. Use high speed film, pushed to 800 or 1600 ASA, set the shutter speed at 1/1000 sec or faster, and use as small an f-stop as possible (e.g. in the range from f8-f22) to increase depth of field. Set exposures based on incident light readings from a hand-held meter; because lighting conditions change rapidly, take meter readings fairly often.

Processing

In photo-ID studies, the (photo) negatives are the baseline data, from which all analyses will spring. Therefore, do not take short cuts in processing. If shooting *Ilford* HP-5, use the processing method described in Annex G.

Printing

Commercial labs will generally print negatives for proper exposure of the entire content of the negative. This often results in prints in which the surroundings are well-exposed, usually at the expense of the ID detail of the whale. Fig. 2b gives an example of a typical badly printed ID shot.

A good ID print usually has a background that looks very washed out (Figs 1b, 1c and 2a). If in doubt, print lighter than darker. Use polycontrast paper (e.g. *Kodak* or *Ilford*) and experiment with polycontrast filters to heighten contrast. Ensure that you do not lose fine details by using too high a contrast. For example, a grade 3 polycontrast filter enhanced the details in Fig. 2a, giving a slightly better result than printing without a filter (i.e. grade 2).

Always print for the ID detail of the whale, not for the surroundings. Figs 1b and 1c are printed to show the detail of the indentations and nicks on the dorsal fin, and to show the shape and markings of the saddle patch. Fig. 2a is printed to show the fine lines, rakes, spots, and open circle on the flukes.

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